

**Notice of Allowability**

Application No.

10/062,626

Examiner

Jason Proctor

Applicant(s)

YANG, JIANJUN

Art Unit

2123

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 9/22/05.
2. ☒ The allowed claim(s) is/are 1-3.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some\* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |  |
|---|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)                                  |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date <u>20051013</u> . |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment   |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance                         |
|   | 9. <input type="checkbox"/> Other _____.   |

### **DETAILED ACTION**

Claims 1-3 were rejected in the previous Office Action. Applicants' response on 22 September 2005 has amended claims 1-3. Claims 1-3 are allowed.

#### ***Specification***

The Examiner thanks Applicants for amending the specification in response to the previous objections. Those objections have been withdrawn.

#### ***Drawings***

The Examiner thanks Applicants for clarifying remarks in response to the previous drawing objections. Those objections have been withdrawn.

#### ***Rejections – 35 U.S.C. § 112, first paragraph***

The Examiner thanks Applicants for clarifying remarks in response to the previous rejections of claims 1-3 under 35 U.S.C. § 112, first paragraph, for allegedly failing to comply with the written description and enablement requirements. The Examiner notes that the basis for these rejections was found in certain discrepancies between portions of the specification and the drawings, which have been resolved by Applicants' response and amendments received on 22 September 2005. Additionally, Applicants' arguments further clarify that the claims comply with 35 U.S.C. § 112, first paragraph. Those rejections under 35 U.S.C. § 112, first paragraph, have been withdrawn.

***Rejections – 35 U.S.C. § 112, second paragraph***

Regarding the rejection of claims 1-3 under 35 U.S.C. § 112, second paragraph, as indefinite for failing to fulfill the function stated in the preamble of the claims, Applicants submit that the present amendments overcome these rejections. The Examiner finds this argument persuasive. The previous rejections under 35 U.S.C. § 112, second paragraph, have been withdrawn.

***Rejections – 35 U.S.C. § 101***

Regarding the rejection of claims 1-3 under 35 U.S.C. § 101, Applicants' argue that the claims in question are clearly limited to a practical application within the circuit simulator art. The Examiner finds this argument persuasive. The claims, as amended, are directed toward a mathematical model that estimates the output of a mixer circuit and limited to the practical application of that estimate to simulate the mixer circuit. The previous rejections under 35 U.S.C. § 101 have been withdrawn.

***Requirement for Information – 37 CFR 1.105***

Applicants have fully responded to the Requirement for Information under 37 CFR 1.105 of the previous Office Action.

Regarding Applicants' statement that "the present invention was incorporated in the Agilent Advanced Design System Version 1.5", the Examiner initiated a telephone interview with Mr. Calvin B. Ward (30,896) that resulted in clarification on 14 October 2005. The present invention is described in portions of the "Circuit Components System Models" portion, which is

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copyright February 2001 and published and/or offered for sale some time after that date. The documentation is directed to using the Agilent Advanced Design System Version 1.5 and does not directly disclose the underlying mechanics, such as the claimed subject matter. As a result, there is insufficient evidence in the record that the claimed invention is subject to an on-sale bar under 35 U.S.C. § 102(b).

In the interest of forming a complete record, the "Circuit Components and System Models" portion of the documentation has been cited on form PTO-892 and placed in the record.

### *Reasons for Allowance*

The following is an examiner's statement of reasons for allowance:

The prior art of record does not expressly teach or render obvious the claimed invention as recited in the methodology of claim 1. Specifically, the allowable subject matter resides in the limitations, as recited in the context of claim 1, directed to estimating the output of a simulated mixer according to the formulation of  $f(a1, a3)$  and the derivation of  $C_{ij}$  as disclosed by the specification (pages 4-5), which has not been uncovered in a single teaching, nor would a modification of prior art references be obvious to one of ordinary skill in the art to yield these limitations in the context of the claims. Though the general concepts are taught throughout the prior art, the combined integrated steps to construct the estimate as recited in claim 1 were not expressly uncovered. Further, the prior art does not expressly provide motivation to integrate these related teachings to yield the instant invention. Motivation does not always have to come from within the prior art references. However, in the instant case, taking into consideration the nature of this art and the skill level required, one would need some impetus and direction to

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modify the individual teachings to result in the integrated steps as recited in the claims.

Dependent claims 2-3 are allowable as they depend on an allowed independent claim.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

The prior art made of record, shown on forms PTO-892, is the closest art uncovered during the examination process and is considered pertinent to Applicants' invention. Though considered pertinent, the art is not anticipatory and does not render obvious the claimed methodology as recited in claim 1. In particular, US Patent No. 4,716,537 to Scheuermann discloses a mathematical model for a two-port circuit with a formulation that is based upon S-parameters (column 2 – column 3). However, a person of ordinary skill in the art would recognize that a three-port mixer, as recited by Applicants' claim 1 (RF port, LO port, and an IF port) behaves in an entirely different fashion. A person of ordinary skill in the art would recognize Scheuermann's disclosure as unsuitable for a three-port mixer circuit and teaching virtually nothing regarding Applicants' claimed formulation.

### *Conclusion*

Art considered pertinent by the examiner but not applied has been cited on form PTO-892.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason Proctor whose telephone number is (571) 272-3713. The examiner can normally be reached on 8:30 am-4:30 pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Picard can be reached at (571) 272-3749. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application should be directed to the TC 2100 Group receptionist: 571-272-2100. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jason Proctor  
Examiner  
Art Unit 2123

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Paul L. Rodriguez 10/19/15  
Primary Examiner  
Art Unit 2125